

IN THE CLAIMS

Claim 1 has been amended as follows:

1. (Currently Amended) A medical device comprising:

a tracheal tube and a cuff surrounding an exterior of said tracheal tube and configured to be positioned in the trachea of a subject with the tracheal tube allowing the subject to respire through the tracheal tube;

a first tube outside of the tracheal tube and the cuff, said first tube having a first end in fluid communication with an interior of the cuff and having an opposite, second end;

a second tube outside of the tracheal tube and the cuff, said second tube having a first end in fluid communication with the interior of the cuff and having an opposite, second end;

a pumping device connected to the respective second ends of the first and second tubes that circulates a fluid through the interior of the cuff, said pump, said first and second tubes, and said cuff forming a flow path for said fluid;

said cuff comprising a membrane that is selectively permeable to a substance relative to said fluid, said membrane being disposed to allow transfer through said membrane of said substance from an exterior of the cuff to the interior of the cuff so as to mix with the fluid in the interior of the cuff , ~~said pump, said first and second tubes, and said cuff forming a flow path for said fluid~~; and

an analysis unit in fluid communication with said flow path that analyzes said fluid with regard to content in said fluid of said substance from the

exterior of the cuff that has mixed with said fluid from the exterior
interior of the cuff.

2. (Cancelled)

3. (Previously Presented) A medical device as claimed in claim 1 wherein said analysis unit includes a calculation unit that quantitatively determines an amount of said substance in said fluid relative to a predetermined normal amount.

4. (Previously Presented) A medical device as claimed in claim 1 wherein said medical device comprises a dosing unit in fluid communication with said flow path that administers a dose of a medicament into said fluid.

5. (Previously Presented) A medical device as claimed in claim 4 wherein said analysis unit includes a calculation unit that quantitatively determines an amount of said substance in said fluid relative to a predetermined normal amount, and wherein said dosing unit comprises at least one reservoir containing at least one additive corresponding to said substance, said dosing unit causing said additive from said reservoir to be added into said medicament if said analysis unit determines that said amount of said substance in said fluid is below said predetermined normal amount.

6. (Original) A medical device as claimed in claim 1 wherein said cuff comprises at least one partition wall that partitions the interior of said cuff into multiple chambers, each chamber having a first chamber tube with a first chamber tube end in fluid communication therewith and a second chamber tube with a first chamber tube end in fluid communication therewith, and wherein said first chamber tube has a second chamber tube end and said second chamber tube has a second

chamber tube end in fluid communication with said pumping device for circulation of respectively separate fluids through the multiple chambers.

7. (Previously Presented) A medical device as claimed in claim 1 wherein said membrane is permeable to at least one protein, as said substance, selected from the group of proteins consisting of SP-A, SP-B, SP-C and SP-D that are present in surfactant.

8. (Previously Presented) A medical device as claimed in claim 5 wherein said membrane also allows transfer through said membrane of said substance from the interior of the cuff to the exterior of the cuff and wherein said analysis unit, after said dosing unit includes said additive in said medicament, analyzes said fluid with regard to content in said fluid of said substance that has mixed with said fluid from said exterior of the cuff and from said medicament.